ALFA - ADVANCED LOW FLYING AIRCRAFTS DETECTION AND TRACKING

Newsletter
April 2018 - Issue 3

Message of the Coordinator

The first half of the ALFA project has almost passed and the project partners can look back at a very active and development rich first project period. Since the early stages a lot of progress was made on the **system specifications** and **operation concept** and some ground-laying decisions were taken. Almost in parallel the **system architecture** was developed, which was finished after the first year of the project. With this progress, two major project **milestones** were **successfully accomplished**. During the last couple of months the focus was put on the **components** and **technologies** in order to achieve the necessary development for **detection capabilities** beyond the state-of-the-art. Also work on the development of capabilities for **situation assessment** and **landing site prediction** has been performed during the last couple of months. Furthermore, exploitation strategies were set and the consortium is progressing preparing the Intermediate Business Plan and Exploitation report.

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ALFA General Assembly and Technical Meeting

From 10th to 11th April 2018 another **ALFA technical meeting** and the second **General Assembly Meeting** took place in Palermo, Italy, hosted by partner Engineering. The morning of the first day was dedicated to the General Assembly meeting, followed by technical discussions on the **ALFA components and technologies**. In particular, the status and progress on **radar**, **EO/camera** and **passive RF** was discussed, which last until the early afternoon. Later on, there was another technical slot on the **situation assessment** and **landing site prediction**. After an overall update of the status, the progress of upcoming deliverables was elaborated and the **implementation** of the **ALFA architectural framework** was discussed by all partners. To end the day, several partners sat down together in order to do some preparatory work for the next **Early Adopters Forum** (EAF) meeting and to define the further way forward how to best involve them in the project. After an early start on the second day, partners directly got engaged in presentations and discussions about the **functional demonstration**. An overview of the upcoming tasks and planned work was given and proposals for the demonstrations were made. The consortium identified the **involved parties**, necessary **equipment** and required **permits** and talked about the **environment** to be expected to the **final demonstration**. Another important part of the morning and early afternoon was on Dissemination, Exploitation and Ethical Aspects. Discussions were mainly oriented around upcoming and planned activities and the current concept and contents of the partners' individual and joint dissemination and exploitation strategies.

ALFA consortium at meeting in Palermo

Key Data:

Start Date:	1st of January, 2017
End Date:	31st of December, 2019
Duration:	36 months
Project Reference:	700002
Project Costs:	€ 4.613.831,25
Project Funding:	€ 4.613.831,25
Consortium:	9 partners (6 countries)
Project Coordinator:	Dr. Klaus-Michael Koch coordination@alfa-h2020.eu
Technical Leader:	Rob van Heijster, MSc. Rob.vanheijster@tno.nl
Project Website:	www.alfa-h2020.eu

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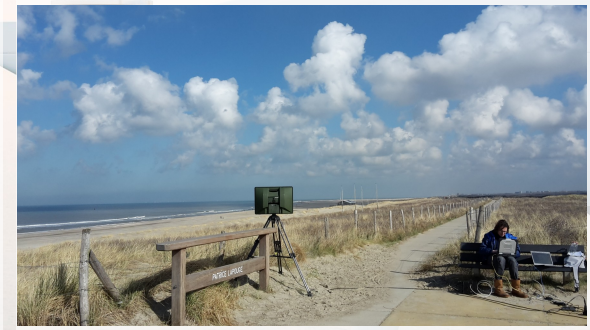
TESTING ACTIVITIES

A series of measurement campaigns were conducted in the Netherlands with the THALES Nederland SQUIRE and TNO AMBER radars in order to gather data for the training and testing of the ALFA radar classifier. Drones, as well as manned helicopter and fixed-wing aircraft were measured. More measurements will be performed in the near future for targets belonging to the ultralight class as well as operationally relevant confusers (sea clutter, cars, bikes, kite surfers, etc.). The measurements of the manned aircraft were conducted in Ter Heijde, i.e. conducted at the coast, South of The Hague. Several runs were flown, inbound and outbound, for different aircraft altitudes and for distances varying from 0 to up to 30 km. Each time, several minutes of useful radar measurements were gathered. Pre- and post-processing of the raw radar measurements has been performed at the TNO and THALES premises to extract useful features that enable the discrimination of the different targets. Using these features, the radar classifier has been trained and tested. A multi-feature, multi-class classifier can thus be developed that performs the classification of the operationally relevant targets in coastal environments.



Manned fixed wing measurements in The Netherlands

WP4 kick-off meeting

WP4, which deals with the **situation assessment** and **landing site prediction**, was kicked-off during a meeting in Malaga, hosted by end-user Guardia Civil (GC) from 7th – 8th of February 2018. During the first day, the participants got an insight behind to the **SIVE command and control centre** of GC's headquarters. During this impressive presentation of SIVE, the current status in terms of the border **control** was provided. Afterwards WP4-related topics were treated, starting with feedback and discussions on questionnaires on landing site prediction as well as on the specification of the **threat assessment function.** On the second day, remaining tasks of WP4 and their impact were presented and discussed, including the presentation of the layer for end-user data as and the landing site prediction and its database. Also a brief overview on the exploitation strategies of ALFA was provided followed by a demonstration of the first results on preliminary **framework implementations**. In a wrap-up session the fruitful discussions were recapped, next steps were defined and responsibilities were assigned.

Highlights of ALFA Dissemination Activities

Animated Presentation: Towards the end of the first project year, the ALFA consortium has created an animated presentation that provides some general information about the **project** and its **partners**. It further highlights the **objectives** and **motivations** and gives an overview of the **work structure**.

Participation at SICUR: ALFA was disseminated at the International **Security, Safety and Fire Exhibition (SICUR)** which took place in Madrid from 20th to 23rd February, 2018. Over 1300 enterprises from 29 countries participated in SICUR and many of them showed their security portfolio in the exhibitors' area. ALFA was disseminated by ATOS in the stand from the Spanish **Technology Platform on Industrial Safety (PESI)**. PESI promotes **Industrial Safety issues**, integrating all the agents interested on research and technological developments. An overview of ALFA was explained there to the PESI's Secretary General and leaflets where available for visitors. The topics that were addressed in the program of Technical Workshops at SICUR were among others Research & Innovation, Cybersecurity, Critical Infrastructure Protection, Terrorism and Emergencies, and new legislative features regarding fire-proofing installations. As far as research and innovation is concerned, the SICUR program included an Information day for Horizon 2020's Secure Societies Call. Among others speakers there were representatives from **DG HOME** and the **Research Executive Agency**.

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